

Application No. 10/694,222
Amendment dated June 19, 2007
Reply to Office action of March 23, 2007

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-8 (cancelled)

Claim 9 (current amended): A heat energy conversion system comprising,
a thermopile located on an inner surface of a vertical heat conducting flue wall of a heating,
cooling and venting equipment, said thermopile being operative for generating a basic voltage
when said flue wall is heated,

~~A~~ an operating-on-demand pilot burner located in said equipment ~~adapted~~ operative to
generate a pilot flame for heating an outer surface of said flue wall,

an inverter charger operative for increasing said basic voltage to an operating voltage
having a predetermined voltage level,

a super capacitor coupled to said inverter charger and adapted to be charged by said
inverter charger to store said operating voltage therein,

a regulator means coupled to said super capacitor and operative to maintain said super
capacitor fully charged with said operating voltage,

a load coupled to said super capacitor and operative by said operating voltage.

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a pilot control valve coupled to said regulator means and operative to ~~actuated~~ actuate said pilot burner to generate said pilot flame selectively in predetermined time intervals and at occasion when said operating voltage is required by a said load.

Claim 10(currently amended): A heat energy conversion system according to Claim 9 including a heat exchanger attached to said thermopile, and said load being an air circulation means operative by said operating voltage from said super capacitor for circulating air through said heat exchanger to extract heat therefrom to a room to be heated.

Claim 11(currently amended): A heat energy conversion system according to Claim 9 including a heat pipe ~~connected~~ located juxtaposed to said flue wall and a heat conducting member operative to be heated by an external heat source.

Claim 12(currently amended): A heat energy conversion system according to Claim 11 wherein said external heat source is provided selectively by an wood fire, solar heat, hot spring, and a volcanic pool.

Claim 13(currently amended): A heat energy conversion system according to Claim 12 including a fluid pressure vessel adapted to receive heat from said heat source, a fluid

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~~having a low boiling point~~ located in said fluid pressure vessel and being operative by said heat to generate a vapor pressure, a turbine coupled to said pressure vessel and operative to be driven by said vapor pressure to provide a mechanical motion output for operating said air circulating means.

Claim 14 (canceled).

Claim 15(new): A heat energy conversion system according to Claim 9 wherein said thermopile comprises a plurality of pairs rods of different types of semiconductor materials spaced from one another and extending between two heat conductive electrical insulating blocks having an external surface on one side forming a hot junction of said thermopile and an opposite external surface opposite to said one side and forming a cold junction of said thermopile, said hot junction and said cold junction being electrically connected to said super capacitor for providing said operating voltage to said super capacitor.

Claim 16(new): A heat energy conversion system according to Claim 9 wherein said thermopile is a heat pipe comprising a sealed cylindrical casing having an interior cavity and a fluid absorbent wick-like material lining the entire inner surface of said cavity, a fluid maintained in equilibrium between a fluid form in said wick-like material and in a vapor form in said cavity, both ends of said heat pipe being electrically connected to said super capacitor for providing said operating voltage to said super capacitor when one end of said heat pipe is heated

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by a heat source.

Claim 17(new): A heat energy conversion system according to Claim 16 wherein
said heat source is provided by a flame generated by an operating-on-demand pilot burner.